

C-4

EPA General Permit WAG130000 - Annual Report



Annual Report of Operations
for Year 2018

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:

WAG 130004

Facility & Owner Information

Facility Name:

Makah National Fish Hatchery

Operator Name (Permittee):

Makah National Fish Hatchery

Address:

Mailing Address: PO Box 739, Neah Bay, WA, 98357

Physical Address: 897 Hatchery Road, Neah Bay, WA, 98357

Email:

benjamin_gilles@fws.gov

Phone:

360-645-2521

Owner Name (if different from operator):

Email:

Phone:

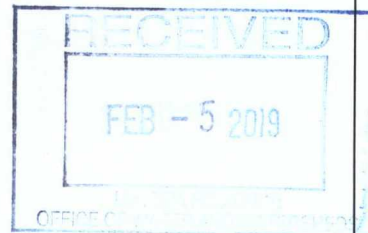
Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ☒ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ☒ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

No changes made to the BMP in 2018.



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Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): **52,691**

Pounds of food fed to fish during the maximum month:
6,821

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Fall Chinook	17,052	Tsoo-Yess River	May
Coho	12,853	Tsoo-Yess River	April
Winter Steelhead	22,786	Tsoo-Yess River	April

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	24870	2037	July	Not Sampled	928
February	28171	3552	August	4213	1340
March	39035	5961	September	Not Sampled	2203
April	8237	3990	October	Not Sampled	2358
May	17944	6821	November	9915	606
June	1708	630	December	Not Sampled	1466

Additional Comments: Fish were not sampled for size each month due to hot water in the summer and staffing shortages throughout the fall.

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Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
Brood Stock Carcasses	Sept - December 2018	Hatchery Grounds
Additional Comments:		

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
Additional Comments: No mass mortalities in 2018.			

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Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

No periods of noncompliance in 2018.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily	As Needed	Indoor fiberglass rearing tanks and outdoor concrete raceways.
Daily	Throughout 2018	Continued to modify tail screens concrete raceways in 2018 to create 16" quiescent zone.
Weekly	As Needed	Pollution abatement pond and associated serpentine channel.

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Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.

Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Azithromycin
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Chloramine-T: <i>See additional reporting requirements on page 7</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Chlorine
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Draxxin
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - injectable
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - medicated feed
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Florfenicol (Aquaflor)
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Formalin - 37% formaldehyde: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Herbicide - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hormone - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydrogen Peroxide: <i>See additional reporting requirements on page 7</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Iodine: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Oxytetracycline
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potassium Permanganate: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Romet
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SLICE (emamectin benzoate)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sodium Chloride - salt
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Vibrio vaccine
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:

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Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Parasite-S		Generic Name: Formalin	
Reason for use: Control of external protozoa and fungi on eggs			
<input type="checkbox"/> Preventative/Prophylactic <input checked="" type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): up to 76,320 ml	Total quantity of formulated product used in past year (specify units): 2850 gallons	
Date(s) of treatment: Throughout 2018			Total number of treatments in past year: 166
Maximum daily volume of treated water: 17.2 cfs	Treatment concentration (specify units): See below	Duration and frequency of treatment(s): See below	
Method of application:			
<input checked="" type="checkbox"/> Static Bath <input checked="" type="checkbox"/> Flow-through		<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):			
<input checked="" type="checkbox"/> Raceways <input checked="" type="checkbox"/> Incubation building		<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe):	
Where did water treated with this chemical go? (check all that apply):			
<input type="checkbox"/> Discharged w/o treatment <input checked="" type="checkbox"/> Settling basin		<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <input type="checkbox"/> Other (describe):	
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: For the control of ich = flow thru at 25-40 ppm for 7.5 - 24hrs; for costia = static bath at 167 ppm for 1 hr; for control of fungus on eggs = flow thru @ 1600 ppm for 15 min.			

Brand Name: Aquaflor		Generic Name: Florfenicol	
Reason for use: Control of Flavobacterium psychrophilum and Aeromonas salmonicida			
<input type="checkbox"/> Preventative/Prophylactic <input checked="" type="checkbox"/> As-needed	Total quantity of formulated product per treatment: up to 180 grams	Total quantity of formulated product used in past year (specify units): 213 grams	
Date(s) of treatment: 8/9/18 - 8/18/18 and 9/11/18 - 9/20/18			Total number of treatments in past year: 2
Maximum daily volume of treated water: 5.4 cfs	Treatment concentration (specify units): 681 g/ton	Duration and frequency of treatment(s): 10 day treatment	
Method of application:			
<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through		<input checked="" type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):			
<input checked="" type="checkbox"/> Raceways <input type="checkbox"/> Incubation building		<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe):	
Where did water treated with this chemical go? (check all that apply):			
<input type="checkbox"/> Discharged w/o treatment <input checked="" type="checkbox"/> Settling basin		<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <input type="checkbox"/> Other (describe):	
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

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Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Ovadine		Generic Name: Buffered PVP Iodine	
Reason for use: Fish Egg disinfectant			
<input checked="" type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): up to 6814 mL	Total quantity of formulated product used in past year (specify units): 4 gallons	
Date(s) of treatment: 9/26/18, 10/3/18, 10/10/18, 10/31/18, 12/4/18			Total number of treatments in past year: 5
Maximum daily volume of treated water: .03 cfs	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): static bath - 20 min	
Method of application:	<input checked="" type="checkbox"/> Static Bath <input checked="" type="checkbox"/> Flow-through	<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input type="checkbox"/> Raceways <input checked="" type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input type="checkbox"/> Other (describe):
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input checked="" type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input type="checkbox"/> Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			
Brand Name:		Generic Name:	
Reason for use:			
<input type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input type="checkbox"/> Other (describe):
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input type="checkbox"/> Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

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Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	<div style="display: flex; justify-content: space-between;"> <div>Solution:</div> <div>Specify Units</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Active Ingredient:</div> <div>Specify Units</div> </div>
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	<div style="display: flex; justify-content: space-between;"> <div>Solution:</div> <div>Specify Units</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Active Ingredient:</div> <div>Specify Units</div> </div>
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Formalin

Static Bath Treatments	
Tank Volume	68,470 Liters
Desired Static Bath Concentration	167,000 µg/L
Volume of Product Needed	11.5 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 169 ppm Active Ingredient: 63 ppm
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per Day	3,500 gpm
Maximum % of Facility Discharge Treated	0.14 % of Total Discharge

Worst case scenario: Raceway summer costia treatment
 Volume in Liters 68,470 (18,087 gallons)
 Treatment rate 167,000 ppb or 167 ppm
 Volume of formalin 11478.01 grams 11.47801 Liters

Effluent concentration 169 ppm solution
 63 ppm A.I.

Percent of Total Discharge 0.086633

Flow-Through Treatments	
Tank Volume	68,470 Liters
Calculated Flow Rate	2,730 Liters/Minute
Duration of Treatment	1440 Minutes
Desired Flow-Through Treatment Concentration of Product	40,000 µg/L
Amount of Product to Add Initially	0 Liters of Product
Amount of Product to Add During Treatment	91 mL/Minute
Total Volume of Product Needed	131.3 Liters of Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 7 ppm Active Ingredient: 3 ppm
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,500 gpm
Maximum % of Facility Discharge Treated	1.59 % of Total Discharge

Worst case scenario: Raceway summer ich treatment
 Volume in Liters 68,470 (18,087 gallons)
 Flow rate 600 gpm = 2730 liters per min
 Volume of formalin 131328 grams 131.328 Liters

Amount added during treatment 91 mL/min

Effluent concentration 7 ppm solution
 3 ppm A.I.

Percent of Total Discharge 0.991234

Ovadine

Static Bath Treatments	
Tank Volume	15,857 Liters
Desired Static Bath Concentration	75,000 µg/L
Volume of Product Needed	1.2 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 79 ppm Active Ingredient: 8 ppm
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per Day	4,200 gpm
Maximum % of Facility Discharge Treated	0.001 % of Total Discharge

Worst case scenario: Incubator stack of Heath Trays
 Volume in Liters 15,857 (4,189 gallons)
 Treatment rate 75,000 ppb or 75 ppm
 Volume of ovadine 1193.865 grams 1.193865 Liters

Effluent concentration 79 ppm solution
 8 ppm A.I.

Percent of Total Discharge 0.007509

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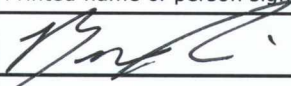
Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.

No changes to the facility or operations since the 2017 annual report.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Benjamin Gilles	Makal NFH PL
Printed name of person signing	Title
	1/30/19
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191
Washington Hatchery Annual Report
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140